

Summary of Environmental Investigations

Park East Freeway Redevelopment Parcel 39

(BLOCK 4)

(also indicated as Block 7 in the City of
Milwaukee Park East Redevelopment Plan)





DEPARTMENT OF PUBLIC WORKS

Milwaukee County

EXHIBIT "C"
(page 2 of 48)

October 4, 2005

To the reader:

Please note that this is a condensed synopsis of environmental information collected for Parcel 39 from larger reports. For in-depth information on this parcel, review the Phase I and Phase II Environmental Investigations prepared by HNTB and the Phase II Subsurface Investigation prepared by The Sigma Group. These reports are available through Milwaukee County Environmental Services. Contact Gertie Payne at (414) 278-4874.

The Sigma Group Phase II Subsurface Investigations [2005]

The purpose of the subsurface investigation was to determine the extent of soil impacts identified during the Phase II Subsurface Investigation prepared by HNTB. To accomplish this task in Parcel 39, two monitoring wells (PH109 and PH 110), one test pit (TP39-5), and one boring (CITY39-4) were completed. Sample locations and analytical results are included in this document.

HNTB Phase I and Phase II Environmental Investigations [2001]

The Phase I investigation identified sites with potential contamination based on past land use, maps and aerial photography. The phase II investigation identified the presence or absence of contamination in shallow soil and groundwater. The results of both investigations are summarized in this document.

This summary does not include investigations performed on Property 3 in Parcel 39 (Roadster Property LLC), which is now part of the new McKinley Boulevard and is not slated for redevelopment. For information on this parcel please see HNTBs report *PHASE II SUBSURFACE INVESTIGATION, ROADWAY AREAS; Parcel 39 Property 3—Roadster LLC*.

July 26, 2005

Project Reference #7926

Ms. Johanna Howard
City of Milwaukee
Department of City Development
809 North Broadway
Milwaukee, WI 53202

RE: Phase II Subsurface Investigation Results
Park East Corridor Properties

Dear Ms. Howard:

Sigma Environmental Services, Inc. (Sigma) was retained by the City of Milwaukee, Department of City Development, to complete subsurface investigation activities at the Park East Corridor properties (Blocks 37, 38, 39, 129 and 131). The subsurface investigation activities were completed to evaluate the degree and extent of soil impacts identified during the Phase II assessment activities completed by HNTB as part of the Park East Freeway demolition and to evaluate groundwater quality beneath the four block area.

The purpose of this letter report is to provide you with a summary of the activities completed and results obtained for the Park East Phase II investigation. The scope of activities completed in December 2003, January, June and July 2004 are consistent with the City of Milwaukee Request for Proposal dated March 4, 2003, and Sigma's proposal dated March 21, 2003.

BACKGROUND

The site is located in the southwest ¼ of the southeast ¼ of Section 20, Township 7 North, Range 22 East in the City of Milwaukee, Milwaukee County Wisconsin (See *Figure 1*). The project site encompasses five vacant parcels numbered 37, 38, 39, 129, and 131. Adjoining the site to the north is West McKinley Avenue, North 3rd Street to the east, West Winnebago Avenue to the west, and West Winnebago Avenue and West Juneau Avenue to the south. (See *Figure 2*).

Prior to construction and the subsequent 2003 demolition of the Park East Freeway (STH 145) the entire subject area was historically divided into individual lots/properties used for commercial and industrial businesses.

Previous Phase I Environmental Audits and Limited Phase II Environmental Investigations revealed that petroleum hydrocarbon compounds, lead, and chromium have impacted many former properties located within the subject area. Sources of these impacts likely include historic facility operations, previous/existing underground storage tank (UST) and aboveground storage tank (AST) systems and fill material.



Review of the Phase I and Phase II Environmental Site Assessments completed by HNTB and parcel specific investigations completed by others indicates the presence of fill with varying composition and thickness. Elevated concentrations of lead and chromium were also sporadically detected within shallow and moderate depth soil within the subject area. Groundwater within the site and surrounding area was noted to be impacted within both the shallow (less than 20 feet bgs) groundwater flow regime and the deeper (60 to 70 feet bgs) groundwater flow regime. It was also noted that the groundwater flow within the area was relatively complex.

The proposed Phase II investigation activities were conducted in December 2003, January, June and July 2004. The scope of activities, results and recommendations are presented below.

SCOPE OF WORK

To evaluate the degree and extent of soil impacts identified during the Phase II assessment activities completed by HNTB as part of the Park East Freeway demolition and to evaluate groundwater quality beneath the four block area Sigma, on behalf of the City of Milwaukee, conducted the following:

- 1) Completion of Geoprobe® soil borings to facilitate the collection of soil samples to further define the lateral and vertical extent of previously identified soil impacts.
- 2) Completion of test pits to complete a visual assessment of the fill mass and to collect soil samples to characterize the chemical composition of the fill materials.
- 3) Installation and sampling of ch. NR 141 compliant groundwater monitoring wells to evaluate site hydrogeologic characteristics as well as to evaluate deeper groundwater quality.

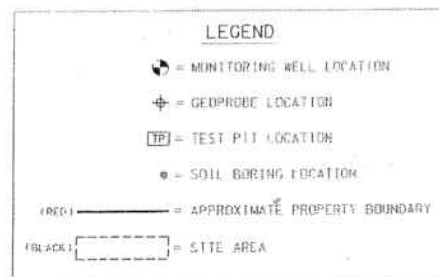
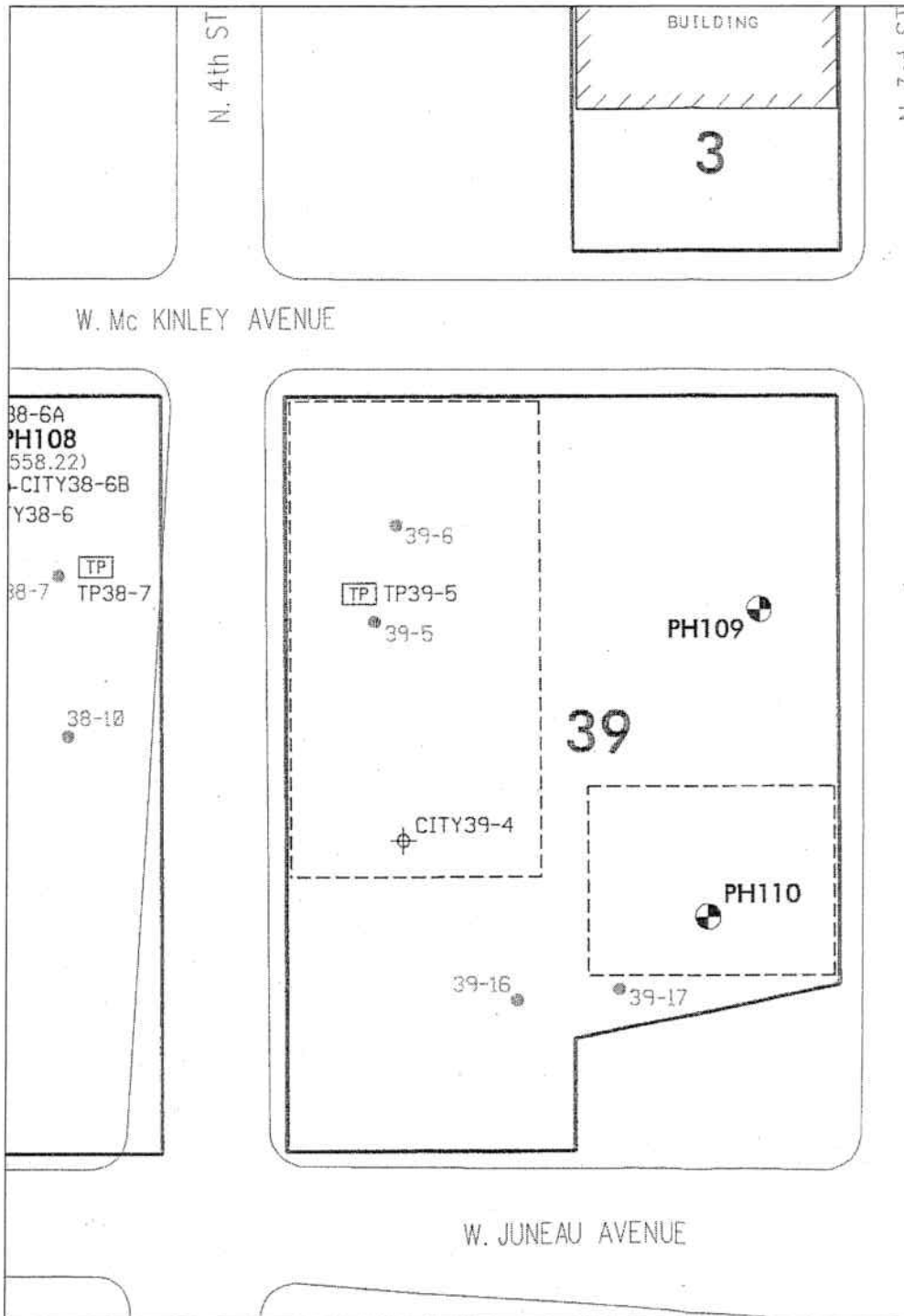
The soil boring, test pit and groundwater monitoring well locations are shown on *Figure 2*. All of the investigation activities were completed in accordance with the site's EPA approved Quality Assurance Project Plan (QAPP).

INVESTIGATION ACTIVITIES

Geoprobe® Investigation

Between December 16, 2003 and January 13, 2004, 24 Geoprobe® soil borings were completed in parcels 37 and 38. On July 16, 2004, eight Geoprobe® soil borings were completed in parcels 39, 129 and 131. All of the Geoprobe® borings were advanced to depths of between 4 and 15 feet below ground surface (bgs), as sampling requirements dictated. The soil borings were strategically located to confirm and further evaluate the degree of lead or chromium impact and/or to evaluate the vertical and lateral extent of relatively high concentrations of lead and chromium detected during previous Phase II site investigations. The geoprobe soil boring locations are presented on *Figure 2*.

During boring advancement, soil samples were collected on a continuous basis and described on the basis of color, texture, grain size, and plasticity, and classified in accordance with the United Soil Classification System (USCS). The soil classifications, sampling intervals, and descriptions are presented on the Soil Boring Logs in *Appendix A*.



<p align="center">TABLE 1 GROUNDWATER ELEVATION CITY OF MILWAUKEE - PARK EAST PROJECT MILWAUKEE, WISCONSIN Project Reference #7926</p>				
Monitoring Well	Date	Top of Casing Elevation (ft MSL)	Depth to Water (feet)	Groundwater Elevation (ft MSL)
PH101	6/29/2004	601.43	43.26	558.17
PH102	6/29/2004	606.73	43.32	563.41
PH103	6/29/2004	618.31	49.37	568.94
PH104	6/29/2004	621.57	56.31	565.26
PH105	6/29/2004	599.27	40.88	558.39
PH106	6/29/2004	595.22	36.20	559.02
PH107	6/29/2004	594.51	34.76	559.75
PH108	6/29/2004	594.84	36.62	558.22
PH109	6/29/2004	592.47	19.56	572.91
PH110	6/29/2004	592.93	32.85	560.08
<p>Notes:</p> <p align="center">MSL = mean sea level</p>				

TABLE 2
SOIL QUALITY ANALYTICAL RESULTS
TEST PITS
CITY OF MILWAUKEE - PARK EAST PROJECT
MILWAUKEE, WISCONSIN
Project Reference #7926

Soil Boring Identification:		37-5	37-18	38-7	38-18	39-5	131-5	129-1	Suggested Generic RCLs for PAH Compounds in Soil		
Sample Depth (feet bgs):		2-4	10-12	6-8	0-2	4-6	4-6	2-4	NR 720	NR 746	US EPA PRG
Collection Date:		12/17/2003	12/22/2003	12/22/2003	12/22/2003	07/16/2004	07/16/2004	07/16/2004	RCL	Table 1	Table 2
Percent solids		%	83.2	83.4	77.1	93.1	88.8	87.1	NS	NS	NS
GRO		mg/kg	<6.0	<6.0	<6.5	<5.4	<5.6	<5.7	100	NS	NS
DRO		mg/kg	337	41	882	1,930	10	7.0	100	NS	NS
RCRA Metals											
Arsenic		mg/kg	<13	<53	<29	<24	7.0	5.7	1.6	NS	NS
Barium		mg/kg	110	55	83	28	55	13	NS	NS	NS
Cadmium		mg/kg	1.6	<0.12	1.2	1.3	0.78	1.6	510	NS	NS
Chromium		mg/kg	8.4	25	13	6.9	15	2.8	200 *	NS	NS
Lead		mg/kg	288	23	285	64	0.78	11	500	NS	NS
Mercury		mg/kg	0.46	0.031	4.3	0.16	0.092	<0.011	NS	NS	NS
Selenium		mg/kg	<24	<26	<52	<43	<4.5	<4.6	NS	NS	NS
Silver		mg/kg	0.28	<2.6	<1.4	<1.2	<0.12	<0.13	NS	NS	NS
VOCs / PVOCs											
Benzene		µg/kg	<30	65	<32	<27	<28	<29	5.5	8,500	1,100
Ethylbenzene		µg/kg	<30	31	<32	<27	<28	<29	2,900	4,600	NS
Naphthalene		µg/kg	<270	<30	895	3,760	<28	<29	NS	2,700	NS
Isopropylbenzene		µg/kg	<30	<30	<32	<27	<28	<29	NS	NS	NS
Toluene		µg/kg	<30	100	<32	<27	<28	<29	1,500	38,000	NS
1,2,4-Trimethylbenzene		µg/kg	<30	38	<32	52	<28	<29	NS	83,000	NS
Xylenes (Total)		µg/kg	<42	120	<45	60	<39	<40	4,100	42,000	NS
PAHs											
Acenaphthene		µg/kg	<450	<60	752	<16,000	<56	<57	NS	NS	NS
Acenaphthylene		µg/kg	<750	<100	<1,100	<27,000	<96	<97	NS	NS	NS
Anthracene		µg/kg	709	7.7	1,950	22,600	59	<5.7	NS	NS	NS
Benzo(a)anthracene		µg/kg	2,160	23	3,240	31,100	282	<5.7	NS	NS	NS
Benzo(a)pyrene		µg/kg	2,520	22	2,850	22,600	236	<5.7	NS	NS	NS
Benzo(b)fluoranthene		µg/kg	1,440	9.6	1,130	8,700	180	<5.7	NS	NS	NS
Benzo(ghi)perylene		µg/kg	733	19	1,950	11,800	203	<5.7	NS	NS	NS
Benzo(k)fluoranthene		µg/kg	938	11	1,260	10,200	124	<5.7	NS	NS	NS
Chrysene		µg/kg	1,920	18	2,330	19,300	225	<5.7	NS	NS	NS
Dibenzo(a,h)anthracene		µg/kg	300	<9.0	402	<2,400	43	<8.6	NS	NS	NS
Fluoranthene		µg/kg	5,170	53	7,520	70,900	563	<11	NS	NS	NS
Fluorene		µg/kg	553	<12	623	10,700	<11	<11	NS	NS	NS
Indeno(1,2,3-cd)pyrene		µg/kg	1,560	18	1,690	19,300	191	<5.7	NS	NS	NS
1-Methylnaphthalene		µg/kg	<270	<36	<390	<9,600	<34	<34	NS	NS	NS
2-Methylnaphthalene		µg/kg	<220	<30	3,110	<8,100	<28	<29	NS	NS	NS
Naphthalene		µg/kg	<270	<36	1,300	<9,600	35	<24	NS	2,700	NS
Phenanthrene		µg/kg	3,250	40	5,710	66,600	214	<5.7	NS	NS	NS
Pyrene		µg/kg	4,690	48	7,520	69,800	676	<5.7	NS	NS	NS

Notes:

Laboratory analyses performed by Test America of Watertown, WI in accordance with EPA Method 6010 (Lead and Cadmium), Method EPA 8021B (VOCs), Method EPA 8310 (PAHs), WDNR GRO

mg/kg = milligrams per kilogram (equivalent to parts per million)

µg/kg = micrograms per kilogram (equivalent to parts per billion)

NA = Not Analyzed

NS = No Standard

NR 720 RCL = Wisconsin Administrative Code, Chapter NR 720 generic Residual Contaminant Level (Industrial land use RCLs for RCRA metals).

NR 746 Table 1 = Wisconsin Administrative Code, Chapter NR 746, Table 1 soil screening level: Indicators of Residual Petroleum Products in Soil Pores.

NR 746 Table 2 = Wisconsin Administrative Code, Chapter NR 746, Table 2: Protection of Human Health from Direct Contact with Contaminated Soil.

Interim RCL = More stringent generic Residual Contaminant Level for protection of groundwater (gw) or direct contact (dc) pathway for non-industrial land use from WDNR Publication RR-519-97 "Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance" (April 1997)

US EPA PRG = Preliminary Remediation Goal for residential and industrial soil from U.S. Environmental Protection Agency Region IX Preliminary Remediation Goal table.

US EPA SSL = Soil Screening Level for migration to groundwater (with dilution-attenuation factor of 20) from U.S. Environmental Protection Agency Region IX Preliminary Remediation Goal table.

Exceedances: **BOLD** = Concentration exceeds NR 720 RCL (metals, VOCs) or Interim RCL (PAHs)**BOX** = Concentration exceeds US EPA PRG or SSL

US EPA PRGs and SSLs only provided for relative benchmark concentrations.

All methanol blanks exhibited non-detectable concentrations of VOCs.

TABLE 2 (Continued)
SOIL QUALITY ANALYTICAL RESULTS
GEOPROBE SOIL BORINGS
CITY OF MILWAUKEE - PARK EAST PROJECT
MILWAUKEE, WISCONSIN
Project Reference #7926

Soil Boring Identification: Sample Depth (feet bgs): Collection Date:			Project Reference #7926												Suggested Generic RCLs for PAH Compounds in Soil									
			39-4 2-4 07/16/2004		131-7 4-6 07/16/2004		129-10 0-4 07/16/2004		129-12 0-4 07/16/2004		129-12A 0-4 07/16/2004		129-12B 0-4 07/16/2004		129-12C 0-4 07/16/2004		129-12D 0-4 07/16/2004		NR 720 RCL	NR 746 Table 1 Table 2	Interim RCL	US EPA PRG Residential Industrial		US EPA SSL
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
RCRA Metals			4.2	6.2	4.2	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 *	NS	NS	210 (total)	450 (total)	38 (total)	NS
Chromium (ICP)			NA	NA	NA	7.4	8.8	6.7	8.0	7.2	6.8	7.8	7.6	7.1	8.6	500	NS	NS	NS	NS	400	750	NS	NS
Lead (ICP)																								
VOCs / PVOCS																								
Benzene			NA	NA	<27	<28	2,160	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5	8,500	1,100	NS	650	1,500	30	30
Naphthalene			NA	NA	109	56	<28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	2,700	NS	56,000	190,000	84,000	84,000	
Trichloroethene			NA	NA	<27	97	<28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	53	110	60	60	
Toluene			NA	NA	28	<28	<28	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,500	38,000	NS	520,000	520,000	12,000	12,000	
1,2,4-Trimethylbenzene			NA	NA	46	<28	<28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	83,000	NS	52,000	170,000	NS	NS	
Xylenes (Total)			NA	NA	40	<39	<40	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,100	42,000	NS	210,000	210,000	210,000	210,000	
PAHs																								
Acenaphthene			NA	NA	2,610	<55	<57	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	3,700,000	38,000,000	570,000	570,000	
Acenaphthylene			NA	NA	<920	<94	<97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	700 (gw)	NS	NS	NS	
Anthracene			NA	NA	2,830	7.0	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	22,000,000	100,000,000	12,000,000	12,000,000	
Benzo(a)anthracene			NA	NA	2,180	27	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	88 (dc)	620	2,900	2,900	
Benzo(a)pyrene			NA	NA	2,830	18	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	8.8 (dc)	62	290	8,000	
Benzo(b)fluoranthene			NA	NA	1,310	10	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	88 (dc)	620	2,900	5,000	
Benzo(g,h,i)perylene			NA	NA	1,740	15	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	1,900 (dc)	NS	NS	NS	
Benzo(k)fluoranthene			NA	NA	1,310	8.6	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	880 (dc)	6,200	29,000	49,000	
Chrysene			NA	NA	3,260	20	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	8,800 (dc)	62,000	290,000	160,000	
Dibenz(a,h)anthracene			NA	NA	457	<8.3	<8.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	8.8 (dc)	62	290	2,000	
Fluorene			NA	NA	10,900	52	<11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	500,000 (gw)	2,300,000	30,000,000	4,300,000	
Indeno(1,2,3-cd)pyrene			NA	NA	2,500	<11	<11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	100,000 (gw)	2,600,000	33,000,000	580,000	
1-Methylnaphthalene			NA	NA	1,830	13	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	88 (dc)	620	2,900	14,000	
2-Methylnaphthalene			NA	NA	435	<33	<34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	23,000 (gw)	NS	NS	NS	
Naphthalene			NA	NA	7,830	<28	<28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	20,000 (gw)	NS	NS	NS	
Phenanthrene			NA	NA	<330	<33	<34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	400 (gw)	56,000	190,000	84,000	
Pyrene			NA	NA	7,070	29	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	1,800 (gw)	NS	NS	NS	
			NA	NA	7,510	51	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	500,000 (dc)	2,300,000	54,000,000	4,200,000	

Notes:

Laboratory analyses performed by Test America of Watertown, WI in accordance with EPA Method 8010 (Lead and Cadmium), Method EPA 8021B (VOCs), Method EPA 8310 (PAHs), WDNR GRO (GRO) and WDNR DRO (DRO).

mg/kg = milligrams per kilogram (equivalent to parts per million)

µg/kg = micrograms per kilogram (equivalent to parts per billion)

NA = Not Analyzed

NS = No Standard

NR 720 RCL = Wisconsin Administrative Code, Chapter NR 720 generic Residual Contaminant Level (Industrial land use RCLs for RCRA metals).

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NR 746 Table 2 = Wisconsin Administrative Code, Chapter NR 746, Table 2: Protection of Human Health from Direct Contact with Contaminated Soil.

Interim RCL = More stringent generic Residual Contaminant Level for protection of groundwater (gw) or direct contact (dc) pathway for non-industrial land use from WDNR Publication RR-515-97 "Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance"

US EPA PRG = Preliminary Remediation Goal for residential and industrial soil from U.S. Environmental Protection Agency Region IX Preliminary Remediation Goal table.

US EPA SSL = Soil Screening Level for migration to groundwater (with dilution-attenuation factor of 20) from U.S. Environmental Protection Agency Region IX Preliminary Remediation Goal table.

Exceedances: **BOLD** = Concentration exceeds NR 720 RCL (metals, VOCs) or Interim RCL (PAHs)Exceedances: **BOX** = Concentration exceeds US EPA PRG or SSL

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
CITY OF MILWAUKEE - PARK EAST PROJECT
MILWAUKEE, WISCONSIN
Project Reference #7926

Well Location:	PH101	PH102	PH103	PH104	PH105	PH106	PH107	PH108	PH109	PH110	DUPLICATE	TRIP BLANK	NR 140 ES	NR 140 PAL
Date:	06/30/2004	06/30/2004	06/30/2004	06/30/2004	06/30/2004	06/30/2004	06/30/2004	06/30/2004	06/30/2004	06/30/2004	06/30/2004			
Groundwater Elevation:	558.17	563.41	568.94	565.26	558.39	559.02	559.75	558.22	572.91	560.08				
VOC														
Benzene	1,400	<0.2	<0.2	<0.2	<0.2	19	<0.2	<0.2	<0.2	<0.2	1,500	<0.2	5	0.5
Ethylbenzene	13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	13	<0.5	700	140
Trichlorofluoromethane	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<10	<0.5	NS	NS
Toluene	29	<0.2	<0.2	<0.2	<0.2	0.51	<0.2	<0.2	<0.2	<0.2	30	<0.2	1,000	200
Total Xylenes	40	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5	<0.5	42	<0.5	10,000	1,000

KEY:

All concentrations reported in micrograms per liter (µg/l) - equivalent to parts per billion (ppb)

L = Common lab solvent

NS = No Standard in Wisconsin Administrative Code

VOC = Volatile Organic Compounds

NR 140 ES = NR 140 Enforcement Standard

NR 140 PAL = NR 140 Preventive Action Limit

BOLD = Concentration exceeds NR 140 PAL

BOLD = Concentration exceeds NR 140 ES

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TABLE 4
GROUNDWATER BIOFEASIBILITY RESULTS
CITY OF MILWAUKEE - PARK EAST PROJECT
MILWAUKEE, WISCONSIN
Project Reference #7926

Monitoring Well	Date	D.O. (mg/l)	Redox (mV)	pH	Conductivity (mS)	Ferrous Iron (mg/l)	Temperature (°C)
PH101	6/29/2004	NA	42.0	7.0	NA	2.2	10.3
PH102	6/29/2004	0.28	73.3	7.0	NA	0.6	10.0
PH103	6/29/2004	0.34	36.4	7.0	NA	0.4	10.1
PH104	6/29/2004	0.31	58.8	7.0	NA	1.2	10.0
PH105	6/29/2004	0.33	53.9	7.0	NA	1.0	10.2
PH106	6/29/2004	0.28	83.7	7.0	NA	1.6	10.3
PH107	6/29/2004	0.27	63.1	7.0	NA	1.2	10.2
PH108	6/29/2004	0.32	96.5	7.0	NA	1.0	10.1
PH109	6/29/2004	0.29	94.2	7.0	NA	1.0	10.6
PH110	6/29/2004	0.33	132.6	7.0	NA	1.6	10.2

Notes:

°C = Degrees Celcius
 mg/l = Milligrams per liter (equivalent to parts per million, ppm)
 mS = Millisiemens
 mV = Millivolts
 NA = Not Analyzed

PHASE II SUBSURFACE INVESTIGATION

EXHIBIT "C"
(page 11 of 48)

REDEVELOPMENT AREAS

Parcel 39

**WisDOT Project I.D. 1730-05-01
STH 145/Park East Freeway
Hillside Connection to 4th Street
Milwaukee County**

**WisDOT Project I.D. 1730-06-01
McKinley/Knapp Street Bridge
4th Street to Water Street
Milwaukee County**

**WisDOT Project I.D. 1730-07-01
Local Street Improvements
Local Street
Milwaukee County**

for the

City of Milwaukee, Wisconsin

and

Wisconsin Department of Transportation
District #2

September 21, 2001

Prepared by

**HNTB CORPORATION
11414 West Park Place, Suite 300
Milwaukee, WI 53224
Telephone 414-359-2300
Facsimile 414-359-2310**

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1.0 INTRODUCTION

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HNTB Corporation (HNTB) was retained by Wisconsin Department of Transportation (WisDOT) and the City of Milwaukee to perform a subsurface site investigation at the property known as Parcel 39 located at the Park East Freeway (STH 145). The Park East is situated between West 9th Street and North Jefferson Street west to east and between East Lyon Street and West Juneau Avenue north to south. A site location map showing the limits of this project is included as Figure 1.

HNTB conducted a Phase IA Environmental Site Assessment (ESA) in September 2000 and Phase IB ESA in February 2001. Based on the findings of the Phase IA and IB ESAs, HNTB conducted a Phase II Subsurface Investigation of Parcel 39 between May and July, 2001. Results of the Phase II, conclusions, and recommendations for additional work, if warranted, are presented herein.

1.1 Background

Parcel 39 is owned by the Federal Highway Administration (FHWA) and is located from North 3rd to 4th Streets between West McKinley and Juneau Avenues. Beneath the east and westbound lanes of the Park East Freeway, the parcel is occupied by restaurants and stores on West Juneau Avenue and a public parking lot on the remaining portion of the parcel. Surrounding the parcel is Car X Muffler Shop and a City of Milwaukee public parking structure to the south, Parcel 38 to the west, Lappin Electric Company and the Mandel Company to the north, and Parcel 40 to the east. The Phase I investigation identified three properties with a potential for environmental impacts previously located on the parcel.

- 1222-1254 North 4th Street (Property 1)
- 1221-1229 North 3rd Street (Property 2)
- 1253 North 3rd Street (Property 3)

Boundaries of these properties are shown on Figure 2. These three properties and other parcel areas not included within the boundaries of these properties were investigated during this Phase II investigation.

1.2 Purpose and Scope

The purpose of the Phase II investigation was to evaluate the presence or absence of impacts in shallow-depth soil and groundwater resulting from previous activities or former operations at the parcel identified during the Phase I ESA. The scope of the site investigation consisted of the following activities:

- Advancement of 17 soil borings using the hydraulic direct push drilling method;
- Installation of two temporary groundwater monitoring wells for collecting groundwater samples and elevations;
- Description and classification of soil samples using the Unified Soil Classification System (USCS);
- Field screening of organic vapors in recovered soil samples using a photoionization detector (PID);
- Collection and laboratory analyses of selected soil samples for Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), volatile organic compounds (VOCs), diesel range organics (DRO), and polynuclear aromatic hydrocarbons (PAHs) and/or polyvinyl chlorinated biphenyls (PCBs);
- Laboratory analyses of groundwater samples collected from the temporary wells for RCRA metals, VOCs, DRO, and some samples for PAHs; and
- Evaluation of the collected data and preparation of this Phase II Subsurface Investigation report.

Four of the 17 soil borings completed at the site were advanced as pier borings for evaluating the fill material that will be generated during the removal of the pier footings during freeway demolition.

Soils & Engineering Services, Inc. performed all soil borings and completed all temporary groundwater monitoring wells. Soil boring logs and borehole abandonment forms; and well construction and development forms of the temporary wells are included in Appendices I and II, respectively.

APL, Inc. analyzed all soil and groundwater samples collected during this investigation. Laboratory reports for the soil and groundwater sample analyses are included in Appendices III and IV, respectively.

2.0 PHASE II INVESTIGATION

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2.1 1222-1254 North 4th Street (Property 1)

2.1.1 Phase I Findings

This property is located on the northwest quarter of the parcel. The property is occupied by public parking and is beneath the westbound lanes of the Park East Freeway. The property did not appear on the reviewed state and federal environmental databases. Numerous businesses have occupied the property; however, the main occupant between 1894 and 1910 was Charles Abresch's Carriage Factory. The carriage repair shop and the junkyard occupied the property. The city directories indicated that Plasticote Glove Company, Juneau Stamping and Manufacturing Company, Capitol Engineer Company, Lamp and Miller Manufacturing, Super Steel Products Company, a steel producer and dealer, and Charles Koss & Brothers Bottling Company occupied the property during the 1950's.

In 1963, Lamp Machine Company, a brass foundry, Detienne Whole Bolts and Nuts, and Altoine Engraving Company occupied the property. In the 1967 aerial photograph, that the property appeared to be vacant.

The title search identified that Lots 2 and 3 were exchanged between Super Steel, Belau, and the City of Milwaukee in 1973 and then between the City of Milwaukee and RACM in 1987. Lot 6 was purchased by Milwaukee County in 1965 from Super Steel Products and Belau. Lot 7 was purchased by Milwaukee County in 1966 from Emmie Lamp of Lamp Machine Company. In 1965, multiple parties sold their portions of Lot 10 to Milwaukee County.

The 1968 right-of-way (ROW) plat indicated that four commercial buildings occupied the property. The property owners were indicated as Milamp Realty Company, Super Steel Products Company, and Marie Zrimsek prior to freeway construction. Personal interviews indicated that Super Steel Products specialized in welding steel and also applied paint to some of their metal products. Lamp Machine Company was a brass foundry that fabricated brass plumbing equipment for local breweries. Lamp Machine Company later leased their spaces to a hosiery and printing company.

Historical land uses of this land as an automobile manufacturing facility, steel fabrication plant, a brass foundry, an engraving company, and a junkyard indicated a significant potential for environmentally impacted soil and groundwater at this address. A Phase II ESA was recommended.

2.1.2 Phase II Scope of Work

Six soil borings consisting of five roadway borings (SB-39-1, SB-39-2, SB-39-3, SB-39-4 and SB-39-6) and one pier boring (SB-39-5) were performed on this property. Two samples from each soil boring were submitted for laboratory analyses. Sampling depths varied and consisted of collecting one sample between 0 to 10 feet (shallow) and one sample between 10 and 15 feet (deep). All samples were analyzed for VOCs and DRO. PAHs were analyzed in the sample collected from 3 to 5 feet in boring SB-39-2. RCRA metals were also analyzed in all of the shallow-depth samples and the deep sample collected in boring SB-39-2. PCBs were analyzed in the sample collected at 2 to 4 feet bgs in boring SB-39-6.

Boring SB-39-2 was completed as a temporary groundwater monitoring well. Groundwater samples were collected from temporary well SB-39-2 and analyzed for RCRA metals, DRO, and VOCs.

2.1.3 Phase II Results

Soil Conditions

Observations from the soil borings provided the basis for the limited characterization of the site's geology. Soils encountered in the borings advanced on this property generally consisted of 4 to 11 feet of fill that overlaid layers of fine to medium-grained sand. In some areas, brown sandy silt and / or brown lean clay are located between the fill and the sand layers.

A two-inch layer of peat was observed in soil boring SB-39-3 at 11 feet below grade. The peat layer may serve as an indication of where the natural land surface was historically located. The fill generally consisted of a mixture of gravel, sand, silt and clay. Asphalt fragments were observed in the soil boring SB-39-6.

Soil borings logs provide additional information and are included in Appendix I. Cross-sections of the soils encountered are presented as Figure 3.

Photoionization detector (PID) readings of VOC vapors in soil samples were below 7 instrument units (iu, equivalent to parts per million, ppm) in soil samples recovered from this property. Table 1 lists the PID readings encountered in each boring.

Wet soils were observed at estimated depths between 14 feet bgs or not at all (dry) during drilling activities. Depth to groundwater observed on July 30, 2001 in the temporary well completed in boring SB-39-2 was measured at 15.95 feet (Table 2). Well construction and development forms of the temporary well are included in Appendix II.

Soil Sampling Results

VOCs were not detected in soil samples collected at five of the six borings (SB-39-1, SB-39-3, SB-39-4, SB-39-5, and SB-39-6). Trichloroethene (TCE) was detected at a concentration of 218 ug/kg in the 3 to 5 foot soil sample collected from boring SB-39-2. No other VOCs were detected.

Low-level PAH constituents were also detected in sample SB-39-2 and included a benzo(a)pyrene concentration of 30 ug/kg that exceeded its suggested direct contact pathway RCL for non-industrial properties. Other detected PAHs included benzo(a)anthracene, benzo(b)fluoranthene, chrysene, fluoranthene, naphthalene, and pyrene, but were below suggested generic RCLs.

DRO was detected in all of the samples analyzed, except in sample SB-39-5 (10 to 12 feet). The shallow-depth sample collected at SB-39-6 (2 to 4 feet) contained a DRO concentration of 215 mg/kg. All other DRO detections were below the NR 720 RCL of 100 mg/kg.

Based on the elevated DRO concentration, the shallow depth sample from boring SB-39-6 was analyzed for PCBs. The concentration of PCB1242 was 75 ug/kg in this sample. Other PCBs were below detectable levels.

Metals analyses indicated relatively low concentrations of barium, chromium, and lead in all of the soil samples analyzed. The lead concentration detected in sample SB-39-5 (70 mg/kg) exceeded the NR 720 RCL for lead at non-industrial sites of 50 mg/kg, but was below the RCL for industrial properties of 500 mg/kg. The remaining lead detections were below the 50 mg/kg RCL.

Chromium (total) detected in sample SB-39-4 (23 mg/kg) was above the NR 720 RCL for non-industrial properties of 14 mg/kg (for hexavalent chromium). Mercury was detected at five sample locations (SB-39-2, SB-39-3, SB-39-4, SB-39-5, and SB-39-6) at levels at or below 0.44 mg/kg. Arsenic, cadmium, selenium, and silver were not detected in the samples analyzed.

The location of the soil borings and soil analytical results are presented on Figure 4. Soil analytical results are summarized in Table 3. Laboratory analytical reports of the soil sample analyses are included in Appendix III.

Groundwater Sampling Results

Groundwater sample analyses indicated a low-level detection of barium (0.21 mg/l) that was below its NR 140 PAL and DRO (36 ug/l). No VOCs were detected.

The location of the temporary groundwater monitoring well and the groundwater analytical results are presented on Figure 5. Groundwater analytical results are summarized on Table 4. The laboratory report for the groundwater sample analysis is included in Appendix IV.

2.1.3 Conclusions and Recommendations (Property 1)

The highest levels of soil impacts were predominantly detected in one fill sample collected from the boring that was completed as a temporary monitoring well (SB-39-2). This sample (SB-39-2, 3 to 5 feet) was the only sample that contained VOCs (TCE, 218 ug/kg) and PAH impacts. Benzo(a)pyrene (30 ug/kg in sample SB-39-2) exceeded its suggested direct contact pathway RCL for non-industrial properties.

Groundwater sample analyses indicated a low-level detection of barium (0.21 mg/L) below the NR 140 PAL and a DRO concentration of 36 ug/L. VOCs were not detected in the groundwater sample and PAHs were not analyzed, based on the low-level DRO and PAHs in the overlying soil (fill). Impacts in the fill material at this location do not appear to be adversely affecting the groundwater quality based on these analyses.

Other soil impacts consisted of low-level DRO in all but one soil boring sample and only one soil sample (SB-39-6) that exceeded the NR 720 RCL of 100 mg/kg. This DRO concentration appears to be localized, given the lower DRO values detected in soil samples collected at nearby and surrounding borings SB-39-1, SB-39-2, and SB-39-5. PAH analyses of soil and groundwater collected near soil boring SB-39-6 is recommended to evaluate the presence or absence of PAHs in this area based on the elevated DRO concentration detected in fill sample SB-39-6.

A low-level PCB (PCB 1242) concentration of 75 ug/kg was also detected in sample SB-39-6 in the shallow-depth sample collected at 2 to 4 feet bgs. Additional investigation is recommended in the vicinity of SB-39-6 to evaluate the extent and magnitude of the low-level PCBs detected in SB-39-6, and to assess if this is an isolated detection.

A lead concentration exceeded its NR 720 RCL established for non-industrial properties in one soil sample (SB-39-5 at 2 to 4 feet). Additional investigation is recommended to evaluate the extent and magnitude of lead in the fill to the east and west of and vertically near soil boring SB-39-6 and to assess if this is an isolated detection. Lead levels in fill samples collected to the north and south of SB-39-5 indicate that lead levels in the fill are generally lower in those directions.

The collection and analysis of a soil sample for hexavalent chromium near boring SB-39-4 (2 to 4 feet) is recommended to evaluate what portion of the total chromium concentration detected in the previous collected soil samples, if any, is hexavalent chromium.

Due to the presence of elevated concentrations of VOCs, DRO, PAHs, and metals, HNTB recommends that soil excavated from this site be disposed at a licensed landfill facility, following approval. Protocol B waste characterization analysis is recommended for soils that may be disposed of or removed from the property. Collection and analysis of the soil sample(s) is recommended prior to planned construction or development of the property. Preparation of a Materials Handling Plan may be warranted.

2.2 1221-1229 North 3rd Street (Property 2)

2.2.1 Phase I Findings

This property is currently occupied by public parking and is beneath the eastbound lanes of the Park East Freeway. The property did not appear on the reviewed state and federal environmental databases. Sanborn fire insurance maps indicated that the property was occupied by small stores and a large furniture store. However, the city directories indicated that Wittig & Gehrke Platers occupied the parcel in the 1950's and early 1960's. In the 1966/67 directory, Regel Plating Company and A to Z Printing occupied the property. The property was vacant on the aerial photograph taken in 1970.

The title search indicated that Milwaukee County acquired Lot 12 and portion of Lot 9 from the Reuter's in 1965. That same year, the remaining portion of Lot 9 was sold by the Singer's and Olson's. The 1968 ROW plat indicated that three unidentified buildings were located on this property at the time of freeway construction. Historical uses of this land included a plating company and a printing business. These activities indicated a potential for environmentally impacted soil and groundwater at this address and a Phase II ESA was recommended.

2.2.2 Phase II Scope of Work

Two roadway soil borings (SB-39-7 and SB-39-8) were performed on this property. Two samples at each soil boring were submitted for laboratory analyses of VOCs and DRO. RCRA metals were analyzed in the shallow-depth samples collected at both borings. Soil samples were collected at the 2 to 4 foot and 18 to 20 foot depth intervals in boring SB-39-7, and at the 6 to 8 and 10 to 12 foot depth interval from boring SB-39-8.

Boring SB-39-7 was completed as a temporary groundwater monitoring well. A groundwater sample was collected at temporary well SB-39-7 and analyzed for RCRA metals, DRO, and VOCs.

2.2.3 Phase II Results

Soil Conditions

Soils encountered in the borings advanced on this property generally consisted of 2 to 5½ feet of fill overlying a sandy lean clay and stratified fine to medium sands. The fill generally consisted of a mixture of gravel, sand, silt, and clay. Soil borings logs provide additional information and are included in Appendix I. Cross-sections of the soils encountered are presented as Figure 3.

PID readings were below 2 iu (ppm) in the soil samples screened on-site at each boring location. Table 1 lists the PID reading recorded for each soil sample.

Wet soils were observed at estimated depths between 17 feet bgs or not at all (dry) during drilling activities. Depth to groundwater observed on July 30, 2001 in the temporary well completed in boring SB-39-7 was measured at 17.58 feet (Table 2). Well construction and development forms of the temporary well are included in Appendix II.

Soil Sampling Results

VOCs were not detected in the soil samples collected and analyzed from both borings. DRO was detected in all four samples at concentrations below the NR 720 RCL of 100 mg/kg.

Metal analyses indicted low concentrations of barium, chromium, lead, and mercury; and no detections of arsenic, cadmium, selenium, and silver. NR 720 RCLs established for chromium and lead were not met or exceeded in either sample. Mercury was detected at 0.01 and 0.09 mg/kg in samples SB-39-7 and SB-39-8, respectively.

The location of the soil borings and soil analytical results are presented on Figure 4. Soil analytical results are summarized in Table 3. Laboratory analytical reports of the soil sample analyses are included in Appendix III.

Groundwater Sampling Results

Groundwater sample analyses indicated a low-level detections of barium (0.04 mg/l) that was below its NR 140 PAL and DRO (19 ug/l). No VOCs were detected.

The location of the temporary wells and groundwater analytical results are presented on Figure 5. Groundwater analytical results are summarized on Table 4. The laboratory analytical report of the groundwater sample analysis is included in Appendix IV.

2.2.3 Conclusions and Recommendations (Property 2)

Soil and groundwater sample analyses indicated that no significant VOC, DRO, and RCRA metal impacts were detected at the areas investigated. Based on the results of the soil and groundwater sample analyses, no additional site investigation or waste characterization is recommended on Property 2.

2.3 1253 North 3rd Street (Property 3)

2.3.1 Phase I Findings

This property is located on the corner of North 3rd Street and West McKinley Avenue and is currently occupied by parking and a small red brick one-story building. The building appears to be a shed for engineering controls. The property did not appear on the reviewed state or federal environmental databases. However, in the 1960's and early 1970's, the Sanborn fire insurance maps and city directories identified a Clark Oil & Refining Corporation gas station on the property. On an aerial photograph taken in 1970, the property was vacant. The potential for environmental impacts is likely since a filling station and associated USTs occupied the property.

The title search indicated that a gas station operated on the property. Underground storage tanks (USTs), one Patton compressor, and the filling station fixtures were identified in one of the deeds. In 1987, the Clark Oil and Refining Corporation had sold the property to the company currently known as Roadster LLC when their lease had ended.

The 1968 ROW plat indicated that a service station occupied the property. An unidentified building, which appeared to be the office, was located in the southwest corner of the parcel at the time of freeway construction. Attempts to contact personnel regarding the property were unsuccessful and removal of the USTs could not be confirmed.

Historical use as a gasoline service station and the possible presence of tanks indicated a significant potential for environmentally impacted soil and groundwater at this address. Potential contaminants may include gasoline, diesel, lubricating and hydraulic oils, degreasers, and kerosene. A Phase II ESA was recommended.

2.3.2 Phase II Scope of Work

Two roadway soil borings (SB-39-9 and SB-39-10) were proposed for this property, however, access to complete the borings was denied by the private landowner until recently.

2.3.3 Phase II Results

The results for this investigation are currently pending and will be submitted as an addendum to this report at a later date.

2.3.4 Conclusions and Recommendations (Property 3)

Given that the subsurface investigation was just completed on this property, conclusions and recommendations can not be provided for Property 3 at this time and will follow as an addendum to this report.

2.4 Additional Soil Borings on Parcel 39

2.4.1 Phase II Scope of Work

Seven additional soil borings were advanced on Parcel 39. Three borings (roadway borings SB-39-11, SB-39-12, and pier boring SB-39-14) were advanced in the northeast portion of the parcel between Properties 2 and 3. The other four borings were completed in the south end of the parcel and included three pier borings (SB-39-15, SB-39-16, and SB-39-17) and one roadway boring (SB-39-13).

Two samples at each soil boring were submitted for laboratory analyses. Sampling depths varied and consisted of collecting one shallow-depth sample between 0 to 4 feet and one deeper sample below four feet. All samples were analyzed for VOCs and DRO. RCRA metals were also analyzed in all of the shallow-depth samples.

2.4.2 Phase II Results

Soil Conditions

Soils encountered at the soil borings advanced on this property generally consisted of 5½ to 14½ feet of fill overlying fine to medium sands with gravel or lean clay. The fill generally consisted of a mixture of gravel, sand, silt, and clay. Soil borings logs provide additional information and are included in Appendix I. Cross-sections of the soils encountered are presented as Figure 3.

PID readings were below 5 iu (ppm) in each of the soil samples screened on-site. Table 1 lists the PID reading recorded for each soil sample. Wet soils were observed at estimated depths between 13 and 17 feet bgs or not at all (dry) during drilling activities.

Soil Sampling Results

VOCs were not detected in the soil samples collected and analyzed from any of the seven borings except from pier boring SB-39-15 in the south end of the parcel. A naphthalene concentration of 171 ug/kg was detected in the sample collected from boring SB-39-15 at a depth of 8 to 10 feet bgs. No other VOCs were detected.

DRO was detected in all of the samples at concentrations below the NR 720 RCL of 100 mg/kg.

Metal analyses indicted low concentrations of barium, chromium, lead, mercury, selenium, and silver; and no detections of arsenic or cadmium. Lead concentrations in samples collected from borings SB-39-16 and SB-39-17 exceeded the NR 720 RCL for lead at non-industrial properties of 50 ug/kg. Lead levels detected in the remaining soil samples were below the 50 ug/kg RCL.

Chromium concentrations were detected below the established NR 720 RCLs for non-industrial properties. Mercury was detected in samples collected from borings SB-39-13, SB-39-14, SB-39-16, and SB-39-17 at concentrations ranging from 0.19 to 2.4 mg/kg. Selenium was detected in samples SB-39-11 and SB-39-16 at concentrations of 8.5 and 13 mg/kg, respectively. Silver was detected in sample SB-39-17 at 1.2 mg/kg.

The location of the soil borings and soil analytical results are presented on Figure 4. Soil analytical results are summarized in Table 3. Laboratory analytical reports of the soil sample analyses are included in Appendix III.

2.4.2 Conclusions and Recommendations (Additional Soil Borings)

Soil sample analyses indicated that no significant VOC and DRO impacts were detected at the area investigated. Lead concentrations in two samples (SB-39-16 and SB-39-17) exceeded the NR 720 RCL for lead at non-industrial properties of 50 ug/kg. Additional site investigation is recommended in these areas to evaluate the vertical extent of the total lead concentrations detected at soil borings SB-39-16 and SB-39-17.

Based on the elevated lead levels and on the results of future lead soil analyses, a TCLP analysis of soil anticipated to be disposed of off-site, should be considered pending the results of the additional recommended soil sample analyses. HNTB recommends that soil excavated from this site be disposed at a licensed landfill facility, following approval. Collection and analysis of the soil sample(s) is recommended prior to planned construction or development of the property. The preparation of a Materials Handling Plan may also be warranted.

3.0 GENERAL CONCLUSIONS AND RECOMMENDATIONS

HNTB has completed a Phase II subsurface investigation for Parcel 39 as part of the Park East freeway demolition and redevelopment project. The site investigation activities included the advancement of 17 soil borings across the parcel which, for investigative purposes, was divided into three separate properties 1 through 3 based on historical property usage. In general, the soil beneath Parcel 39 consists of four to 11 feet of fill underlain by fine to medium sand with silty clay, silt and gravel. The fill material was noted to contain asphalt fragments on portions of the parcel.


Two of the 17 soil borings advanced at Parcel 39 were completed as temporary groundwater monitoring wells. Based on depth to groundwater readings taken at each temporary monitoring well location, groundwater was generally present at depths ranging from 16 to 18 feet below ground surface at Parcel 39.

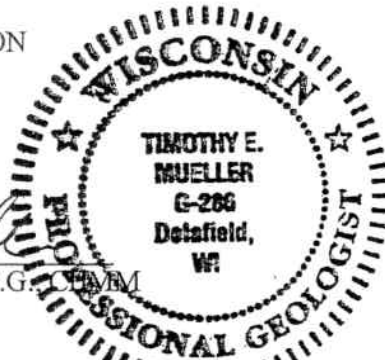
Based on the soil analytical results generated for each property, the fill material across Parcel 39 appears to contain a mixture of chlorinated hydrocarbons, PAH compounds, lead and chromium at levels which exceed the WDNR generic RCLs and suggested RCLs. PCBs and selenium were also detected in the fill material on some portions of the parcel. Additional soil sampling is recommended to further evaluate the extent of the metals, particularly lead and chromium, and VOC impacts to the fill material.

Based on the soil analytical results collected at Parcel 39, it is recommended that the fill material generated as spoil during site redevelopment and removal of the pier footings at the parcel be handled as a solid waste. A materials handling plan is recommended for use during construction activities on the parcel to address the logistics and specific materials handling requirements associated with the fill material as well as health and safety concerns regarding impacted material generated.

This report was prepared in accordance with the scope of work provided in our services agreement and HNTB's standard terms of agreement. The investigation was intended to address specific objectives and is not intended for use beyond this scope. Results and conclusions were taken from discrete soil samples, with inferences made on conditions between sample points. No guarantee may be given that the inferred conditions exist between the sample points as soil and groundwater quality conditions may vary at a given point. No warranties, representations, or certifications are made.

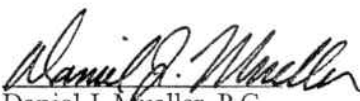
Prepared by
HNTB CORPORATION


Timothy E. Mueller, P.G.
Hydrogeologist




10-01-01
Date

"I, Timothy E. Mueller, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."


Daniel J. Mueller, P.G.
Hydrogeologist

10/1/01
Date

"I, Daniel J. Mueller, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."


David A. Rudig, P.E.
Principal Engineer

1 Oct. 2001
Date

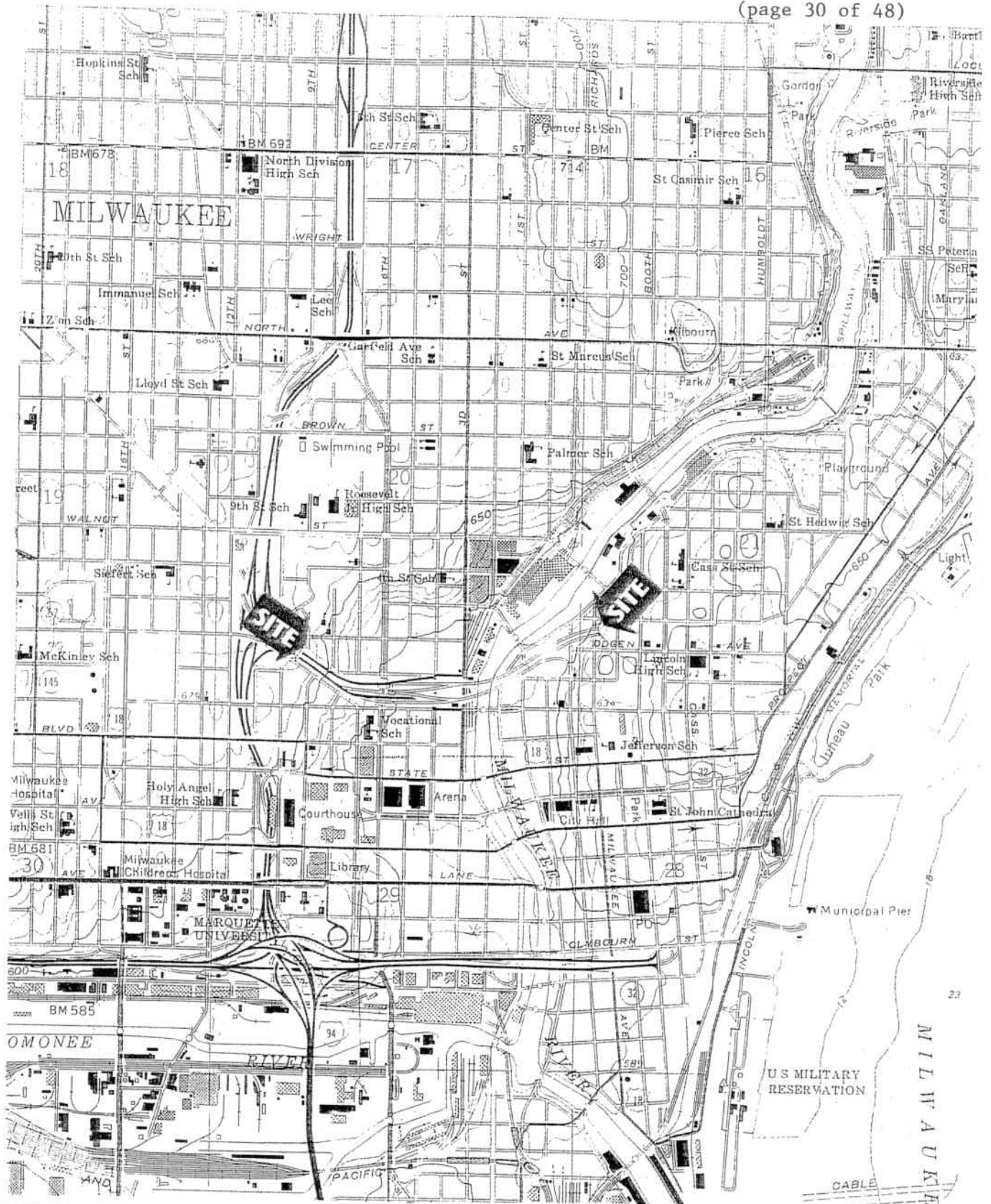


FIGURE: 1

Park East Freeway
Milwaukee, Wisconsin

Wisconsin Department of Transportation

COMMENTS:

Taken From USGS 7.5 minute series Milwaukee Southwest
Quadrangle, Milwaukee County, Wisconsin (Photorevised 1971)

Date: 8/15/00

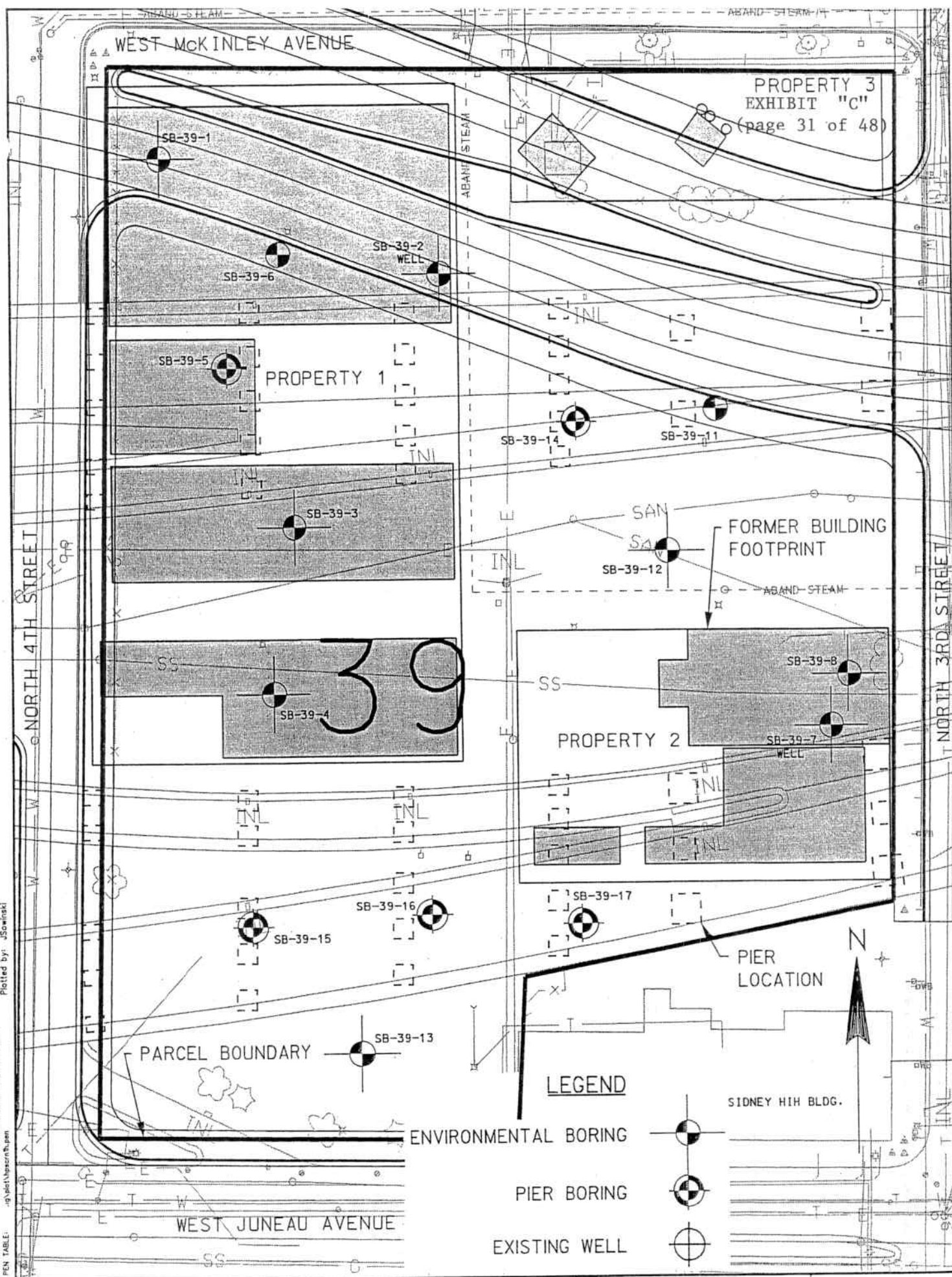
Scale: 1" = 2000 Feet



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Plotted by: JSawinski

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FILE NAME
PEN TABLE

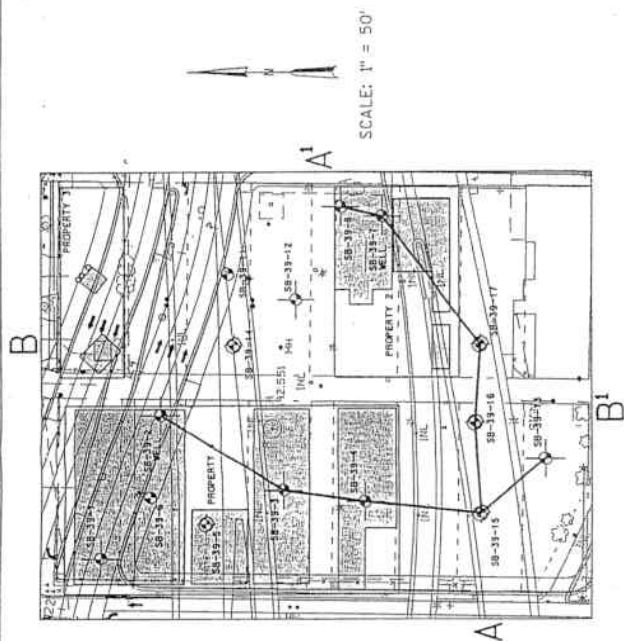
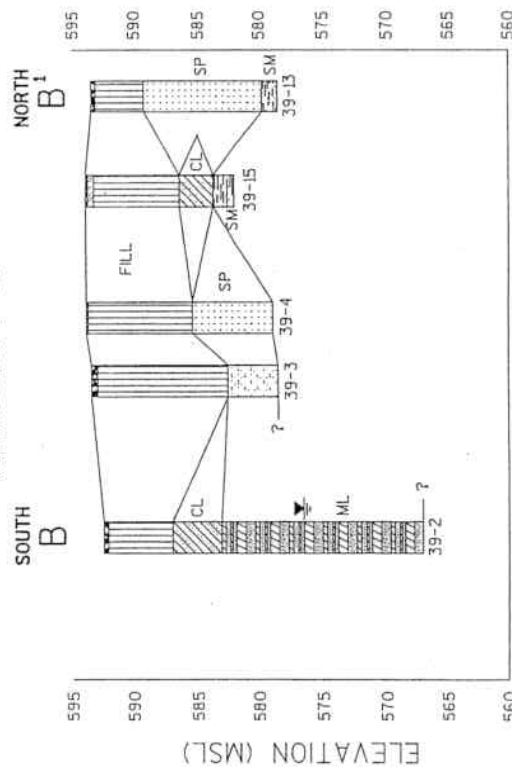


HNTB

FIGURE 2
BORING LOCATION MAP


PARCEL 39

SCALE 1" = 50'



SCALE: 1" = 50'

LEGEND	
ASPHALTIC CONCRETE	TO MEDIUM SAND WITH GRAVEL (SP)
CONCRETE	BASE COURSE
FILL	INTRABEDED (ML)
LEAN CLAY (CL)	SEDIMENTARY PEAT (PT)
SANDY LEAN CLAY (CL)	SILTY SAND (SM)
ORGANIC SILT (OL)	SANDY SILT (SM)
ORGANIC CLAY (OH)	CINDERS
	DEBRIS

1. WIDTH OF SOIL BORING IS NOT TO SCALE
2. MONITORING WELL ELEVATIONS SURVEYED BY HNTB. SOIL BORING ELEVATIONS ARE ESTIMATED BASED ON DIGITAL TERRAIN MODELS.
3. MSL = MEAN SEA LEVEL
4. FT = FEET
5.  = GROUNDWATER ELEVATIONS MEASURED ON JUNE 30, 2001
6. SOIL DESCRIPTIONS ARE BASED ON UNIFIED SOIL CLASSIFICATION SYSTEM (USCS).
7. CONTACTS BETWEEN SOIL TYPES ARE INFERRED BETWEEN BORINGS.

STATE PROJECT NUMBER:1730-07-01	Hwy: STH 145	COUNTY: MILWAUKEE	CROSS SECTIONS - REDEVELOPMENT PARCEL 39	E
FILE NAME : I:\173126\1731\mbl\blt\FILES\cross_sections\ redevelopment\parcel39.dgn		PLOT DATE : 01-OCT-2001 14:24	PLOT NAME :	
			Originator : Dist	
			PLOT SCALE 38.....DIOTS@38.....38	WISDOT/CADD'S SHEET

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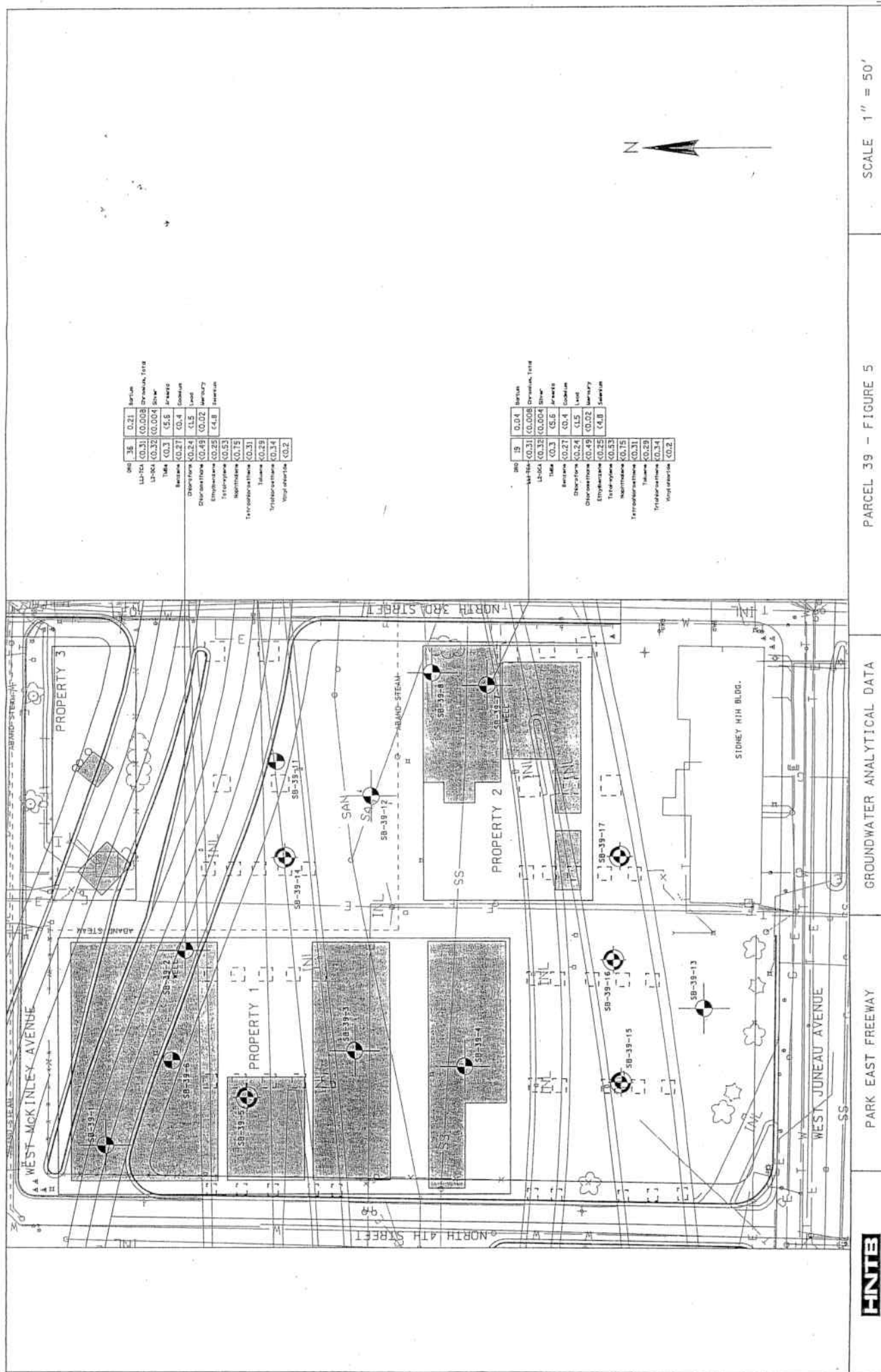


EXHIBIT "C"
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TABLE 2

**PARK EAST FREEWAY PHASE II
GROUNDWATER ELEVATION DATA**

EXHIBIT "C"
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Well Number	Top of Protective Casing Elevation (feet, MSL)	Depth to Groundwater July 30, 2001 (feet)	Groundwater Elevation (feet, MSL)
119-5	646.18	11.76	634.42
129-2	627.68	18.67	609.01
129-6	641.84	19.67	622.17
129-9	643.72	20.74	622.98
129-11	642.4	10.08	632.32
129-12	634.56	7.8	626.76
131-5	610.08	15.38	594.7
131-6	605.87	12.64	593.23
131-9	625.72	17.53	608.19
37-3	595.97	17.8	578.17
37-6	599.1	DRY	NA
37-11	597.41	8.22	589.19
37-15	597.21	8.95	588.26
37-18	595.04	23.52	571.52
38-2	594.02	12.32	581.7
38-7	594.22	16.03	578.19
39-2	592.48	15.95	576.53
39-7	593.3	17.58	575.72
40-2	593.14	13.14	580
153-2	589.93	5.69	584.24
147-1	590.88	12.2	578.68
147-4	588.23	10.75	577.48
148-1	589.65	9.49	580.16
148-5	589.09	10.15	578.94
149-1	590.97	11.13	579.84
149-5	589.93	12.02	577.91
149-7	589.35	11.08	578.27
150-8	596.92	14.07	582.85
150-10	603.4	8.9	594.5
145-1	589.97	9.08	580.89
124-2	592.17	12.88	579.29
2-1	600.38	10.49	589.89
8-1	592.16	9.84	582.32
8-3	592.22	10.71	581.51
10-2	589.59	product in well	NA

Notes:

All groundwater elevation data are presented in feet below the mean sea level (MSL).

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
 (page 35 of 48)

Sample ID		39-1 A	39-1B	39-2 A	39-2 B	39-3 A	39-3 B
Date Collected		5/14/01	5/14/01	5/16/01	5/16/01	5/15/01	5/15/01
Sample Interval (ft Bgs)		6-8	12-14	3-5	15-17	8-10	14-15
Soil Matrix		Native	Native	Fill	Native	Fill	Native
Measured Depth to Groundwater				15.95 ft Bgs			
Analyte	Unit						
Solids, Total Percent	%	87	85	85	82	86	93
Arsenic	mg/kg	<2.39	---	<2.51	<2.57	<2.52	---
Barium	mg/kg	14	---	70	6.8	57	---
Cadmium	mg/kg	<0.4	---	<0.42	<0.43	<0.42	---
Chromium, Total	mg/kg	6.0	---	9.4	4.1	11	---
Lead	mg/kg	13	---	19	3.1	9.5	---
Mercury	mg/kg	<0.012	---	0.05	<0.012	0.44	---
Selenium	mg/kg	<3.99	---	<4.18	<4.29	<4.21	---
Silver	mg/kg	<0.46	---	<0.24	<0.25	<0.48	---
Diesel Range Organics	mg/kg	12	5.1	7.4	3.4	5.1	5.4
Total -Trimethylbenzene	ug/kg	<17	<18	<18	<18	<17	<16
1,2-Dichlorobenzene	ug/kg	<20	<20	<20	<21	<20	<18
Benzene	ug/kg	<16	<16	<16	<16	<16	<15
Ethylbenzene	ug/kg	<15	<15	<15	<15	<15	<14
Isopropyl Ether	ug/kg	<17	<17	<18	<18	<17	<16
Isopropylbenzene	ug/kg	<19	<19	<19	<20	<19	<18
Total -xylene	ug/kg	<31	<31	<32	<32	<31	<29
n-Butylbenzene	ug/kg	<21	<21	<21	<22	<21	<19
n-Propylbenzene	ug/kg	<16	<17	<17	<17	<16	<15
Naphthalene	ug/kg	<44	<44	<45	<46	<44	<41
p-Isopropyltoluene	ug/kg	<18	<18	<19	<19	<18	<17
sec-Butylbenzene	ug/kg	<19	<20	<20	<20	<20	<18
Trichloroethene	ug/kg	<20	<20	218	<21	<20	<19
Toluene	ug/kg	<17	<17	<17	<18	<17	<16

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
 (page 36 of 48)

Sample ID	39-1 A	39-1B	39-2 A	39-2 B	39-3 A	39-3 B
Date Collected	5/14/01	5/14/01	5/16/01	5/16/01	5/15/01	5/15/01
Sample Interval (ft Bgs)	6-8	12-14	3-5	15-17	8-10	14-15
Soil Matrix	Native	Native	Fill	Native	Fill	Native
Measured Depth to Groundwater			15.95 ft Bgs			
Analyte	Unit					
1-Methylnaphthalene	ug/kg	---	---	<57	---	---
2-Methylnaphthalene	ug/kg	---	---	<57	---	---
Acenaphthene	ug/kg	---	---	<38	---	---
Acenaphthylene	ug/kg	---	---	<47	---	---
Anthracene	ug/kg	---	---	<28	---	---
Benzo (a) anthracene	ug/kg	---	---	42	---	---
Benzo (a) pyrene	ug/kg	---	---	30	---	---
Benzo (b) fluoranthene	ug/kg	---	---	37	---	---
Benzo (g,h,i) perylene	ug/kg	---	---	<37	---	---
Benzo (k) fluoranthene	ug/kg	---	---	<18	---	---
Chrysene	ug/kg	---	---	39	---	---
Dibenz (a,h) anthracene	ug/kg	---	---	<38	---	---
Fluoranthene	ug/kg	---	---	88	---	---
Fluorene	ug/kg	---	---	<46	---	---
Indeno (1,2,3-cd) pyrene	ug/kg	---	---	<36	---	---
Naphthalene	ug/kg	---	---	<57	---	---
Phenanthrene	ug/kg	---	---	80	---	---
Pyrene	ug/kg	---	---	77	---	---
PCB1016	ug/kg	---	---	---	---	---
PCB1221	ug/kg	---	---	---	---	---
PCB1232	ug/kg	---	---	---	---	---
PCB1242	ug/kg	---	---	---	---	---
PCB1248	ug/kg	---	---	---	---	---
PCB1254	ug/kg	---	---	---	---	---
PCB1260	ug/kg	---	---	---	---	---

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
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Sample ID		39-4 A	39-4 B	39-5 A	39-5 B	39-6A	39-6B
Date Collected		5/15/01	5/15/01	5/18/01	5/18/01	5/14/01	5/14/01
Sample Interval (ft Bgs)		2-4	14-15	2-4	10-12	2-4	6-8
Soil Matrix		Fill	Native	Fill	Native	Fill	Native
Measured Depth to Groundwater							
Analyte	Unit						
Solids, Total Percent	%	83	91	88	83	81	83
Arsenic	mg/kg	<2.56	---	<2.40	---	<2.60	---
Barium	mg/kg	25	---	65	---	13	---
Cadmium	mg/kg	<0.43	---	<0.40	---	<0.43	---
Chromium, Total	mg/kg	23	---	9.0	---	3.2	---
Lead	mg/kg	15	---	70	---	5.6	---
Mercury	mg/kg	0.07	---	0.30	---	0.05	---
Selenium	mg/kg	<4.27	---	<4.00	---	<4.34	---
Silver	mg/kg	<0.49	---	<0.23	---	<0.50	---
Diesel Range Organics	mg/kg	2.7	3.3	18	<1.2	215	31
Total -Trimethylbenzene	ug/kg	<18	<17	<17	<18	<19	<18
1,2-Dichlorobenzene	ug/kg	<21	<19	<19	<20	<21	<20
Benzene	ug/kg	<16	<15	<15	<16	<17	<16
Ethylbenzene	ug/kg	<15	<14	<14	<15	<16	<15
Isopropyl Ether	ug/kg	<18	<16	<17	<18	<18	<18
Isopropylbenzene	ug/kg	<20	<18	<19	<20	<20	<20
Total -xylene	ug/kg	<32	<29	<30	<32	<33	<32
n-Butylbenzene	ug/kg	<22	<20	<20	<21	<22	<22
n-Propylbenzene	ug/kg	<17	<16	<16	<17	<18	<17
Naphthalene	ug/kg	<45	<42	<43	<45	<47	<45
p-Isopropyltoluene	ug/kg	<19	<17	<18	<19	<19	<19
sec-Butylbenzene	ug/kg	<20	<19	<19	<20	<21	<20
Trichloroethene	ug/kg	<21	<19	<20	<21	<21	<21
Toluene	ug/kg	<18	<16	<16	<18	<18	<18

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
 (page 38 of 48)

Sample ID		39-4 A	39-4 B	39-5 A	39-5 B	39-6A	39-6B
Date Collected		5/15/01	5/15/01	5/18/01	5/18/01	5/14/01	5/14/01
Sample Interval (ft Bgs)		2-4	14-15	2-4	10-12	2-4	6-8
Soil Matrix		Fill	Native	Fill	Native	Fill	Native
Measured Depth to Groundwater							
Analyte	Unit						
1-Methylnaphthalene	ug/kg	---	---	---	---	---	---
2-Methylnaphthalene	ug/kg	---	---	---	---	---	---
Acenaphthene	ug/kg	---	---	---	---	---	---
Acenaphthylene	ug/kg	---	---	---	---	---	---
Anthracene	ug/kg	---	---	---	---	---	---
Benzo (a) anthracene	ug/kg	---	---	---	---	---	---
Benzo (a) pyrene	ug/kg	---	---	---	---	---	---
Benzo (b) fluoranthene	ug/kg	---	---	---	---	---	---
Benzo (g,h,i) perylene	ug/kg	---	---	---	---	---	---
Benzo (k) fluoranthene	ug/kg	---	---	---	---	---	---
Chrysene	ug/kg	---	---	---	---	---	---
Dibenz (a,h) anthracene	ug/kg	---	---	---	---	---	---
Fluoranthene	ug/kg	---	---	---	---	---	---
Fluorene	ug/kg	---	---	---	---	---	---
Indeno (1,2,3-cd) pyrene	ug/kg	---	---	---	---	---	---
Naphthalene	ug/kg	---	---	---	---	---	---
Phenanthrene	ug/kg	---	---	---	---	---	---
Pyrene	ug/kg	---	---	---	---	---	---
PCB1016	ug/kg	---	---	---	---	<6.2	---
PCB1221	ug/kg	---	---	---	---	<6.2	---
PCB1232	ug/kg	---	---	---	---	<6.2	---
PCB1242	ug/kg	---	---	---	---	75	---
PCB1248	ug/kg	---	---	---	---	<6.2	---
PCB1254	ug/kg	---	---	---	---	<6.2	---
PCB1260	ug/kg	---	---	---	---	<6.2	---

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

EXHIBIT "C"
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Soil Analytical Results
Park East Freeway Phase II - Parcel 39

Sample ID		39-7 A	39-7 B	39-8 A	39-8 B	39-11A	39-11B
Date Collected		5/15/01	5/15/01	5/15/01	5/15/01	5/14/01	5/14/01
Sample Interval (ft Bgs)		2-4	18-20	6-8	10-12	2-4	4-6
Soil Matrix		Fill	Native	Native	Native	Fill	Fill
Measured Depth to Groundwater		17.58 ft Bgs					
Analyte	Unit						
Solids, Total Percent	%	94	87	81	87	92	88
Arsenic	mg/kg	<2.19	---	<2.63	---	<2.32	---
Barium	mg/kg	33	---	63	---	9.4	---
Cadmium	mg/kg	<0.36	---	<0.44	---	<0.39	---
Chromium, Total	mg/kg	6.5	---	11	---	4.4	---
Lead	mg/kg	13	---	13	---	10	---
Mercury	mg/kg	0.01	---	0.09	---	<0.011	---
Selenium	mg/kg	<3.64	---	<4.39	---	8.5	---
Silver	mg/kg	<0.42	---	<0.50	---	<0.44	---
Diesel Range Organics	mg/kg	29	4.8	3.6	3.1	46	17
Total -Trimethylbenzene	ug/kg	<16	<17	<19	<17	<16	<17
1,2-Dichlorobenzene	ug/kg	<18	<20	<21	<20	<19	<19
Benzene	ug/kg	<14	<16	<17	<15	<15	<15
Ethylbenzene	ug/kg	<13	<15	<16	<15	<14	<14
Isopropyl Ether	ug/kg	<16	<17	<18	<17	<16	<17
Isopropylbenzene	ug/kg	<17	<19	<20	<19	<18	<19
Total -xylene	ug/kg	<28	<31	<33	<31	<29	<30
n-Butylbenzene	ug/kg	<19	<21	<22	<21	<19	<20
n-Propylbenzene	ug/kg	<15	<16	<17	<16	<15	<16
Naphthalene	ug/kg	<40	<43	<47	<43	<41	<43
p-Isopropyltoluene	ug/kg	<17	<18	<19	<18	<17	<18
sec-Butylbenzene	ug/kg	<18	<19	<21	<19	<18	<19
Trichloroethene	ug/kg	<18	<20	<21	<20	<20	<20
Toluene	ug/kg	<16	<17	<18	<17	<16	<17

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
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Sample ID		39-7 A	39-7 B	39-8 A	39-8 B	39-11A	39-11B
Date Collected		5/15/01	5/15/01	5/15/01	5/15/01	5/14/01	5/14/01
Sample Interval (ft Bgs)		2-4	18-20	6-8	10-12	2-4	4-6
Soil Matrix		Fill	Native	Native	Native	Fill	Fill
Measured Depth to Groundwater		17.58 ft Bgs					
Analyte	Unit						
1-Methylnaphthalene	ug/kg	---	---	---	---	---	---
2-Methylnaphthalene	ug/kg	---	---	---	---	---	---
Acenaphthene	ug/kg	---	---	---	---	---	---
Acenaphthylene	ug/kg	---	---	---	---	---	---
Anthracene	ug/kg	---	---	---	---	---	---
Benzo (a) anthracene	ug/kg	---	---	---	---	---	---
Benzo (a) pyrene	ug/kg	---	---	---	---	---	---
Benzo (b) fluoranthene	ug/kg	---	---	---	---	---	---
Benzo (g,h,i) perylene	ug/kg	---	---	---	---	---	---
Benzo (k) fluoranthene	ug/kg	---	---	---	---	---	---
Chrysene	ug/kg	---	---	---	---	---	---
Dibenz (a,h) anthracene	ug/kg	---	---	---	---	---	---
Fluoranthene	ug/kg	---	---	---	---	---	---
Fluorene	ug/kg	---	---	---	---	---	---
Indeno (1,2,3-cd) pyrene	ug/kg	---	---	---	---	---	---
Naphthalene	ug/kg	---	---	---	---	---	---
Phenanthrene	ug/kg	---	---	---	---	---	---
Pyrene	ug/kg	---	---	---	---	---	---
PCB1016	ug/kg	---	---	---	---	---	---
PCB1221	ug/kg	---	---	---	---	---	---
PCB1232	ug/kg	---	---	---	---	---	---
PCB1242	ug/kg	---	---	---	---	---	---
PCB1248	ug/kg	---	---	---	---	---	---
PCB1254	ug/kg	---	---	---	---	---	---
PCB1260	ug/kg	---	---	---	---	---	---

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
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Sample ID		39-12 A	39-12 B	39-13 A	39-13 B	39-14 A	39-14 B
Date Collected		5/15/01	5/15/01	5/15/01	5/15/01	5/18/01	5/18/01
Sample Interval (ft Bgs)		2-4	12-14	2-4	12-14	2-4	8-10
Soil Matrix		Fill	Fill	Fill	Native	Fill	Native
Measured Depth to Groundwater							
Analyte	Unit						
Solids, Total Percent	%	95	93	94	89	82	92
Arsenic	mg/kg	<2.31	---	<2.32	---	<2.59	---
Barium	mg/kg	9.9	---	43	---	77	---
Cadmium	mg/kg	<0.39	---	<0.39	---	<0.43	---
Chromium, Total	mg/kg	5.7	---	5.6	---	11	---
Lead	mg/kg	5.3	---	39	---	40	---
Mercury	mg/kg	<0.011	---	0.36	---	0.19	---
Selenium	mg/kg	<3.85	---	<3.87	---	<4.32	---
Silver	mg/kg	<0.44	---	<0.44	---	<0.25	---
Diesel Range Organics	mg/kg	7.7	8.6	7.4	4.6	52	3
Total -Trimethylbenzene	ug/kg	<16	<16	<16	<17	<18	<16
1,2-Dichlorobenzene	ug/kg	<18	<18	<18	<19	<21	<19
Benzene	ug/kg	<14	<15	<14	<15	<16	<15
Ethylbenzene	ug/kg	<13	<14	<14	<14	<15	<14
Isopropyl Ether	ug/kg	<16	<16	<16	<17	<18	<16
Isopropylbenzene	ug/kg	<17	<18	<17	<18	<20	<18
Total -xylene	ug/kg	<28	<29	<29	<30	<33	<29
n-Butylbenzene	ug/kg	<19	<19	<19	<20	<22	<19
n-Propylbenzene	ug/kg	<15	<15	<15	<16	<17	<15
Naphthalene	ug/kg	<40	<41	<40	<42	<46	<41
p-Isopropyltoluene	ug/kg	<16	<17	<17	<18	<19	<17
sec-Butylbenzene	ug/kg	<18	<18	<18	<19	<21	<18
Trichloroethene	ug/kg	<20	<20	<19	<20	<18	<19
Toluene	ug/kg	<15	<16	<16	<16	<18	<16

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

EXHIBIT "C"
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Park East Freeway Phase II - Parcel 39

Sample ID		39-12 A	39-12 B	39-13 A	39-13 B	39-14 A	39-14 B
Date Collected		5/15/01	5/15/01	5/15/01	5/15/01	5/18/01	5/18/01
Sample Interval (ft Bgs)		2-4	12-14	2-4	12-14	2-4	8-10
Soil Matrix		Fill	Fill	Fill	Native	Fill	Native
Measured Depth to Groundwater							
Analyte	Unit						
1-Methylnaphthalene	ug/kg	---	---	---	---	---	---
2-Methylnaphthalene	ug/kg	---	---	---	---	---	---
Acenaphthene	ug/kg	---	---	---	---	---	---
Acenaphthylene	ug/kg	---	---	---	---	---	---
Anthracene	ug/kg	---	---	---	---	---	---
Benzo (a) anthracene	ug/kg	---	---	---	---	---	---
Benzo (a) pyrene	ug/kg	---	---	---	---	---	---
Benzo (b) fluoranthene	ug/kg	---	---	---	---	---	---
Benzo (g,h,i) perylene	ug/kg	---	---	---	---	---	---
Benzo (k) fluoranthene	ug/kg	---	---	---	---	---	---
Chrysene	ug/kg	---	---	---	---	---	---
Dibenz (a,h) anthracene	ug/kg	---	---	---	---	---	---
Fluoranthene	ug/kg	---	---	---	---	---	---
Fluorene	ug/kg	---	---	---	---	---	---
Indeno (1,2,3-cd) pyrene	ug/kg	---	---	---	---	---	---
Naphthalene	ug/kg	---	---	---	---	---	---
Phenanthrene	ug/kg	---	---	---	---	---	---
Pyrene	ug/kg	---	---	---	---	---	---
PCB1016	ug/kg	---	---	---	---	---	---
PCB1221	ug/kg	---	---	---	---	---	---
PCB1232	ug/kg	---	---	---	---	---	---
PCB1242	ug/kg	---	---	---	---	---	---
PCB1248	ug/kg	---	---	---	---	---	---
PCB1254	ug/kg	---	---	---	---	---	---
PCB1260	ug/kg	---	---	---	---	---	---

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
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Sample ID		39-15 A	39-15 B	39-16 A	39-16 B	39-17 A	39-17 B	Field Blank
Date Collected		5/18/01	5/18/01	5/18/01	5/18/01	5/18/01	5/18/01	5/14/01
Sample Interval (ft Bgs)		0-2	8-10	2-4	6-8	4-6	8-10	---
Soil Matrix		Fill	Native	Fill	Native	Fill	Native	---
Measured Depth to Groundwater								
Analyte	Unit							
Solids, Total Percent	%	90	85	86	83	78	88	---
Arsenic	mg/kg	<2.36	---	<2.46	---	<2.72	---	---
Barium	mg/kg	19	---	77	---	80	---	---
Cadmium	mg/kg	<0.39	---	<0.41	---	<0.45	---	---
Chromium, Total	mg/kg	3.8	---	13	---	9.1	---	---
Lead	mg/kg	21	---	214	---	128	---	---
Mercury	mg/kg	<0.011	---	2.4	---	0.35	---	---
Selenium	mg/kg	<3.94	---	13	---	<4.53	---	---
Silver	mg/kg	<0.22	---	<0.23	---	1.2	---	---
Diesel Range Organics	mg/kg	14	25	13	8.1	22	5.1	
Total -Trimethylbenzene	ug/kg	<17	<18	<17	<18	<19	<17	<15
1,2-Dichlorobenzene	ug/kg	<19	<20	<20	<21	<22	<19	<17
Benzene	ug/kg	<15	<16	<16	<16	<17	<15	<13
Ethylbenzene	ug/kg	<14	<15	<15	<15	<16	<14	<13
Isopropyl Ether	ug/kg	<17	<18	<17	<18	<19	<17	<15
Isopropylbenzene	ug/kg	<18	<19	<19	<20	<21	<19	<16
Total -xylene	ug/kg	<30	<31	<31	<32	<34	<30	<27
n-Butylbenzene	ug/kg	<20	<21	<21	<22	<23	<20	<18
n-Propylbenzene	ug/kg	<16	<17	<16	<17	<18	<16	<14
Naphthalene	ug/kg	<42	171	<44	<45	<48	<43	<38
p-Isopropyltoluene	ug/kg	<17	<18	<18	<19	<20	<18	<16
sec-Butylbenzene	ug/kg	<19	<20	<20	<20	<22	<19	<17
Trichloroethene	ug/kg	<18	<19	<21	<19	<19	<20	<20
Toluene	ug/kg	<16	<17	<17	<18	<19	<17	<15

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
 (page 44 of 48)

Sample ID		39-15 A	39-15 B	39-16 A	39-16 B	39-17 A	39-17 B	Field Blank
Date Collected		5/18/01	5/18/01	5/18/01	5/18/01	5/18/01	5/18/01	5/14/01
Sample Interval (ft Bgs)		0-2	8-10	2-4	6-8	4-6 "	8-10	---
Soil Matrix		Fill	Native	Fill	Native	Fill	Native	---
Measured Depth to Groundwater								
Analyte	Unit							
1-Methylnaphthalene	ug/kg	---	---	---	---	---	---	---
2-Methylnaphthalene	ug/kg	---	---	---	---	---	---	---
Acenaphthene	ug/kg	---	---	---	---	---	---	---
Acenaphthylene	ug/kg	---	---	---	---	---	---	---
Anthracene	ug/kg	---	---	---	---	---	---	---
Benzo (a) anthracene	ug/kg	---	---	---	---	---	---	---
Benzo (a) pyrene	ug/kg	---	---	---	---	---	---	---
Benzo (b) fluoranthene	ug/kg	---	---	---	---	---	---	---
Benzo (g,h,i) perylene	ug/kg	---	---	---	---	---	---	---
Benzo (k) fluoranthene	ug/kg	---	---	---	---	---	---	---
Chrysene	ug/kg	---	---	---	---	---	---	---
Dibenz (a,h) anthracene	ug/kg	---	---	---	---	---	---	---
Fluoranthene	ug/kg	---	---	---	---	---	---	---
Fluorene	ug/kg	---	---	---	---	---	---	---
Indeno (1,2,3-cd) pyrene	ug/kg	---	---	---	---	---	---	---
Naphthalene	ug/kg	---	---	---	---	---	---	---
Phenanthrene	ug/kg	---	---	---	---	---	---	---
Pyrene	ug/kg	---	---	---	---	---	---	---
PCB1016	ug/kg	---	---	---	---	---	---	---
PCB1221	ug/kg	---	---	---	---	---	---	---
PCB1232	ug/kg	---	---	---	---	---	---	---
PCB1242	ug/kg	---	---	---	---	---	---	---
PCB1248	ug/kg	---	---	---	---	---	---	---
PCB1254	ug/kg	---	---	---	---	---	---	---
PCB1260	ug/kg	---	---	---	---	---	---	---

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
 (page 45 of 48)

Sample ID		Field Blank	Field Blank
Date Collected		5/15/01	5/18/01
Sample Interval (ft Bgs)		---	---
Soil Matrix		---	---
Measured Depth to Groundwater			
Analyte	Unit		
Solids, Total Percent	%	---	---
Arsenic	mg/kg	---	---
Barium	mg/kg	---	---
Cadmium	mg/kg	---	---
Chromium, Total	mg/kg	---	---
Lead	mg/kg	---	---
Mercury	mg/kg	---	---
Selenium	mg/kg	---	---
Silver	mg/kg	---	---
Diesel Range Organics	mg/kg		
Total -Trimethylbenzene	ug/kg	<15	<15
1,2-Dichlorobenzene	ug/kg	<17	<17
Benzene	ug/kg	<13	<13
Ethylbenzene	ug/kg	<13	<13
Isopropyl Ether	ug/kg	<15	<15
Isopropylbenzene	ug/kg	<16	<16
Total -xylene	ug/kg	<27	<27
n-Butylbenzene	ug/kg	<18	<18
n-Propylbenzene	ug/kg	<14	<14
Naphthalene	ug/kg	<38	<38
p-Isopropyltoluene	ug/kg	<16	<16
sec-Butylbenzene	ug/kg	<17	<17
Trichloroethene	ug/kg	<21	<22
Toluene	ug/kg	<15	<15

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 3

Soil Analytical Results
Park East Freeway Phase II - Parcel 39

EXHIBIT "C"
 (page 46 of 48)

Sample ID		Field Blank	Field Blank
Date Collected		5/15/01	5/18/01
Sample Interval (ft Bgs)		---	---
Soil Matrix		---	---
Measured Depth to Groundwater			
Analyte	Unit		
1-Methylnaphthalene	ug/kg	---	---
2-Methylnaphthalene	ug/kg	---	---
Acenaphthene	ug/kg	---	---
Acenaphthylene	ug/kg	---	---
Anthracene	ug/kg	---	---
Benzo (a) anthracene	ug/kg	---	---
Benzo (a) pyrene	ug/kg	---	---
Benzo (b) fluoranthene	ug/kg	---	---
Benzo (g,h,i) perylene	ug/kg	---	---
Benzo (k) fluoranthene	ug/kg	---	---
Chrysene	ug/kg	---	---
Dibenz (a,h) anthracene	ug/kg	---	---
Fluoranthene	ug/kg	---	---
Fluorene	ug/kg	---	---
Indeno (1,2,3-cd) pyrene	ug/kg	---	---
Naphthalene	ug/kg	---	---
Phenanthrene	ug/kg	---	---
Pyrene	ug/kg	---	---
PCB1016	ug/kg	---	---
PCB1221	ug/kg	---	---
PCB1232	ug/kg	---	---
PCB1242	ug/kg	---	---
PCB1248	ug/kg	---	---
PCB1254	ug/kg	---	---
PCB1260	ug/kg	---	---

Notes:

- 1) ft Bgs = Feet below ground surface.
- 2) mg/kg = Milligrams per kilogram.
- 3) ug/kg = Micrograms per kilogram.
- 4) --- = Not analyzed.
- 5) Bold values indicate detection's of compound.
- 6) Bold and shaded value indicates concentration exceeding NR 720 established or suggested generic Residual Contaminant Level.

TABLE 4
Groundwater Analytical Results
Park East Freeway Phase II

EXHIBIT "C"
(page 47 of 48)

Well ID:		39-2	39-7	NR 140	NR 140
Sample Date:		7/10/01	7/10/01		
Analyte	Unit			PAL	ES
Diesel Range Organics	ug/l	36	19	---	---
Metals					
Barium	mg/l	0.21	0.04	0.4 mg/l	2 mg/l
Chromium	ug/l	<0.008	<0.008	10	100
Silver	ug/l	<0.004	<0.004	10	50
Arsenic	ug/l	<5.6	<5.6	5	50
Cadmium	ug/l	<0.4	<0.4	0.5	5
Lead	ug/l	<1.5	<1.5	1.5	15
Selenium	ug/l	<4.8	<4.8	10	50
VOCs					
1,1,1-Trichloroethane	ug/l	<0.31	<0.31	40	200
1,1-Dichloroethane	ug/l	<0.32	<0.32	85	850
1,1-Dichloroethene	ug/l	<0.34	<0.34	0.7	7
1,2,3-Trichlorobenzene	ug/l	<0.50	<0.50	ne	ne
(1,2,4 & 1,3,5) -Trimethylbenzene	ug/l	<0.30	<0.30	96	480
1,2-Dichloroethane	ug/l	<0.35	<0.35	0.5	5
4-Methyl-2-Pentanone	ug/l	<0.80	<0.80	ne	ne
Benzene	ug/l	<0.27	<0.27	0.5	5
Chloroethane	ug/l	<0.64	<0.64	80	400
Chloroform	ug/l	<0.24	<0.24	0.6	6
Chloromethane	ug/l	<0.49	<0.49	0.3	3
cis-1,2-Dichloroethene	ug/l	<0.27	<0.27	7	70
Ethylbenzene	ug/l	<0.25	<0.25	140	700
Isopropylbenzene	ug/l	<0.33	<0.33	ne	ne
m,p&o-xylene	ug/l	<0.53	<0.53	1000	10000
Methyl-t-butyl ether	ug/l	<0.39	<0.39	12	60
n-Butylbenzene	ug/l	<0.36	<0.36	ne	ne
n-Propylbenzene	ug/l	<0.28	<0.28	ne	ne
Naphthalene	ug/l	<0.75	<0.75	8	40
sec-Butylbenzene	ug/l	<0.34	<0.34	ne	ne
Tetrachloroethene	ug/l	<0.31	<0.31	0.5	5
Toluene	ug/l	<0.29	<0.29	200	1000
Trichloroethene	ug/l	<0.34	<0.34	0.5	5
Vinyl chloride	ug/l	<0.20	<0.20	0.02	0.2

Notes:

- 1) ug/l = Micrograms per liter.
- 2) mg/l = Milligrams per liter.
- 3) PAL = Groundwater Quality Preventive Action Limit per Wisconsin Administrative Code (WAC), Chapter NR 140.
- 4) ES = Groundwater Quality Enforcement Standard per WAC, Chapter NR 140.
- 5) 15 (ES) = Values exceeding the WAC NR 140 ES.
- 6) 15 (PAL) = Values exceeding the WAC NR 140 PAL.
- 7) ne = PAL / ES not established for this analyte.
- 8) --- = Sample was not tested for this analyte.

TABLE 4
Groundwater Analytical Results
Park East Freeway Phase II

EXHIBIT "C"
(page 48 of 48)

Well ID:		39-2	39-7	NR 140	NR 140
Sample Date:		7/10/01	7/10/01		
Analyte	Unit			PAL	ES
PAHs					
1-Methylnaphthalene	ug/l	---	---	ne	ne
2-Methylnaphthalene	ug/l	---	---	ne	ne
Acenaphthene	ug/l	---	---	ne	ne
Acenaphthylene	ug/l	---	---	ne	ne
Anthracene	ug/l	---	---	600	3000
Benzo (a) anthracene	ug/l	---	---	ne	ne
Benzo (a) pyrene	ug/l	---	---	0.02	0.2
Benzo (b) fluoranthene	ug/l	---	---	0.02	0.2
Benzo (g,h,i) perylene	ug/l	---	---	ne	ne
Benzo (k) fluoranthene	ug/l	---	---	ne	ne
Chrysene	ug/l	---	---	0.02	0.2
Dibenz (a,h) anthracene	ug/l	---	---	ne	ne
Fluoranthene	ug/l	---	---	80	400
Fluorene	ug/l	---	---	80	400
Indeno (1,2,3-cd) pyrene	ug/l	---	---	ne	ne
Naphthalene	ug/l	---	---	8	40
Phenanthrene	ug/l	---	---	ne	ne
Pyrene	ug/l	---	---	50	250

Notes:

- 1) ug/l = Micrograms per liter.
- 2) mg/l = Milligrams per liter.
- 3) PAL = Groundwater Quality Preventive Action Limit per Wisconsin Administrative Code (WAC), Chapter NR 140.
- 4) ES = Groundwater Quality Enforcement Standard per WAC, Chapter NR 140.
- 5) 15 (ES) = Values exceeding the WAC NR 140 ES.
- 6) 15 (PAL) = Values exceeding the WAC NR 140 PAL.
- 7) ne = PAL / ES not established for this analyte.
- 8) --- = Sample was not tested for this analyte.